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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|--------------------------|---------------------|------------------|
| 10/611,935 | 07/03/2003 | Mark Alexander Groninger | 0142-0417P | 3952 |
| 2292 | 7590 | 10/29/2004 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH | | | TRAN, LY T | |
| PO BOX 747 | | | ART UNIT | |
| FALLS CHURCH, VA 22040-0747 | | | PAPER NUMBER | |
| | | | 2853 | |

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|---|
| Office Action Summary | Application No. 10/611,935 | Applicant(s) GRONINGER ET AL. | |
| | Examiner Ly T TRAN | Art Unit 2853 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-7 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/3/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 4-7 are rejected under 35 U.S.C. 102(b) as being anticipate by Simons (EP 013453).

With respect to claims 1, 5 and 6, Simons discloses a method and an apparatus of controlling an inkjet printer containing at least two substantially closed ducts (Column 3: line 51-53)) comprising actuating an electro-mechanical transducer (Column 4: line 1-15)) whereby the pressure in a first duct is increased, a measuring circuit (Column 4: line 16-33) is provided for measuring an electric signal generated by the deformation of an electro-mechanical transducer as a result of the pressure change in the other duct, each ducts has its own electro-mechanical transducer (Column 3: line 57-58).

While Simons does not clearly show a pressure change in another duct is also generated by actuation, this feature is a necessary property in transducer array as evidence by Perna (USPN 4,414,553)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogers et al. (USPN 5,966,148) in view of Simons (EP 013453).

With respect to claims 1, 5 and 7, Rogers et al discloses a method and an apparatus of controlling an inkjet printer containing at least two substantially closed ducts (Fig.5: element 124) comprising actuating an electro-mechanical transducer (Fig.5: element 128) whereby the pressure in a first duct is increased, and a pressure change in another duct is also generate by the actuation.

However, Rogers et al. fails to teach a measuring circuit is provided for measuring an electric signal generated by the deformation of an electro-mechanical transducer as a result of the pressure change in the other duct.

Simons teaches a measuring circuit is provided for measuring an electric signal generated by the deformation of an electro-mechanical transducer as a result of the pressure change in the other duct (Column 4: line 6-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to measure the electric signal as taught by Simons. The motivation of doing so is that maximum reliability can be guaranteed.

Allowable Subject Matter

3. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2 and 3 are allowable over prior art of record because at least prior art have not been found to anticipate or teach based on the measuring signal, a time is determined suitable for ejecting an ink drop from the other duct.

Conclusion

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-F (7:30am-5pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT

October 21, 2004



Stephen D. Meier
Primary Examiner